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EXAMINER	
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/784,170	BACK, DAE-WHAN	
	Examiner	Art Unit	
	Ryan C. Kavleski	2419	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *29 August 2008*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-10* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-10* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

Response to Amendments

1. This communication is in response to Applicant's reply filed under 3 CFR 1.111 on 8/29/2008. Claims 1-10 remain pending.

Specification

2. The abstract of the disclosure is objected to because the abstract merely recites the claims of the application, which is a broad view of the invention. The content of the abstract should be such as to enable the reader thereof, regardless of his or her degree of familiarity with patent documents, to determine quickly from a cursory inspection of the nature and gist of the technical disclosure and should include that which is new in the art to which the invention pertains. Correction is required. See MPEP § 608.01(b).

3. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

Claim Rejections - 35 USC § 103

1. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

2. Claims 1-3, 6-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tsztoo et al (U.S Patent No. 6,639,915 B1) in view of Kuehnel et al (U.S Patent No. 5,907,542) and further in view of Witkowski et al (U.S Patent No. 6,201,789 B1).

Regarding claim 1, Tsztoo teaches a symbol buffer memory device (934, FIG. 9) of a base station modem (900, FIG. 9), in which the symbol data (i.e., voice data) is stored for transmission to a physical layer (column 13, lines 38-41) comprising:
a buffer memory (voice packet buffer memory 934, FIG. 9) for storing the symbol data for the logical channel according to input sequences (i.e., input CHANNEL_ADD, FIG. 9) so that the symbol data between logical channels are stored in a continuous arrangement (column 10, lines 12-13, 29-32);
- a start address table (i.e., channel address memory 922, FIG. 9) for storing address information according to the logical channels (column 15, lines 51-53), each of the address information indicating a location of initial symbol data corresponding to each of the logical channels from among the symbol data stored in the buffer memory (column 15, lines 11-19); and
a multiplexer (930, FIG. 9) for selectively outputting the address information stored in the start address table (922, FIG. 9) by an enable

signal (i.e., enable signal sent from request arbiter 928 to mux 930) set for each of the logical channels (column 12, lines 50-54).

However Tsztoo fails to disclose the symbol memory buffer of the base station modem belongs to a mobile communication system, in which the symbol data corresponding to at least one logical channel and coded in at least one encoding ratio is stored.

Kuehnel teaches a telecommunication network, with emphasis on wireless mobile telecommunication system, for providing signaling techniques using ATM technology. According to the teaching, the encoded symbol data (column 6, lines 11-14) sent from logical channels (i.e., virtual channels) are stored in a dedicated memory of a mobile terminal (column 6, lines 7-10).

Therefore, it would have been obvious to one with ordinary skill in the art at the time of the invention was made to modify the teaching of Tsztoo to integrate the symbol memory buffer of the base station modem with a mobile communication system, in which the symbol data corresponding to at least one logical channel and coded in at least one encoding ratio is stored as taught by Kuehnel. One would be motivated in order to provide cost and transmission efficiency of the wireless system infrastructure (column 3, lines 44-47) and to establish communications using unique control of signaling channels between the mobile terminal and the wireless network controller (column 4, lines 13-22).

Regarding claim 2, Tsztoo teaches the symbol buffer memory device (934, FIG. 9) as claimed in claim 1, wherein, when storage of symbols corresponding to a predetermined channel has been completed, an initial symbol of a channel is subsequently stored at a position of a word in the buffer memory next to the already-stored symbols (column 10, lines 12-16, 29-32; the storing of data symbol among channels is continuous in the buffer). However, Tsztoo fails to explicitly specify said predetermined channel is of a logical channel. Kuehnel et al teach a telecommunication network, with emphasis on wireless mobile telecommunication system, for providing signaling techniques using ATM technology. According to the teaching, the encoded symbol data (column 6, lines 11-14) sent from logical channels (i.e., virtual channels) are stored in a dedicated memory of a mobile terminal (column 6, lines 7-10).

Therefore, it would have been obvious to one with ordinary skill in the art at the time of the invention was made to modify the teaching of Tsztoo to integrate the symbol memory buffer of the base station modem with a mobile communication system, in which the symbol data corresponding to at least one logical channel and coded in at least one encoding ratio is stored as taught by Kuehnel et al. One is motivated as such in order to provide cost and transmission efficiency of the wireless system infrastructure (column 3, lines 44-47).

Regarding claim 3, Tsztoo teaches the symbol buffer memory device (934, FIG. 9), a selection signal input to the multiplexer (i.e., enable signal sent from request arbiter 928 to mux 930) is produced by reading an enable state of a corresponding

channel by means of a pulse signal (i.e. control signal, column 14, lines 8-12) of each channel, the enable state of the corresponding channel being stored in the start address table (i.e., channel address memory 922, FIG. 9).

Regarding claim 6, Tsztoo teaches storing symbol data (i.e., voice data) in a symbol buffer memory device (934, FIG. 9) of a base station modem (900, FIG. 9) in a mobile communication system, in which the symbol data is stored in the symbol buffer memory device for transmission of the symbol data to a physical layer (column 13, lines 38-41), comprising the steps of:

storing the symbol data for the logical channel according to input sequences (i.e., input CHANNEL_ADD, FIG. 9) so that the symbol data between logical channels are stored in a continuous arrangement (column 10, lines 12-13, 29-32);

storing address information according to the logical channels (column 15, lines 51-53) in a start address table (i.e., channel address memory 922, FIG. 9), each of the address information indicating a location of initial symbol data corresponding to each of the logical channels from among the symbol data stored in the buffer memory (column 15, lines 11-21); and

selectively outputting the address information stored in the start address table (922, FIG. 9) by an enable signal (i.e., enable signal sent from request arbiter 928 to mux 930) set for each of the logical channels (column 12, lines 50-54).

However Tsztoo et al fail to disclose the symbol memory buffer of the base station modem belongs to a mobile communication system, in which the symbol

data corresponding to at least one logical channel and coded in at least one encoding ratio is stored.

Kuehnel et al teach a telecommunication network, with emphasis on wireless mobile telecommunication system, for providing signaling techniques using ATM technology. According to the teaching, the encoded symbol data (column 6, lines 11-14) sent from logical channels (i.e., virtual channels) are stored in a dedicated memory of a mobile terminal (column 6, lines 7-10).

Therefore, it would have been obvious to one with ordinary skill in the art at the time of the invention was made to modify the teaching of Tsztoo to integrate the symbol memory buffer of the base station modem with a mobile communication system, in which the symbol data corresponding to at least one logical channel and coded in at least one encoding ratio is stored as taught by Kuehnel et al. One is motivated as such in order to provide cost and transmission efficiency of the wireless system infrastructure (column 3, lines 44-47) and to establish communications using unique control of signaling channels between the mobile terminal and the wireless network controller (column 4, lines 13-22).

Regarding claim 7, Tsztoo teaches when storage of symbols corresponding to a predetermined channel has been completed, an initial symbol of a channel is subsequently stored at a position of a word in the buffer memory next to the already-stored symbols (column 10, lines 12-16, 29-32; the storing of data symbol among channels is continuous in the buffer).

However, Tsztoo fails to explicitly specify said predetermined channel is of a logical channel.

Kuehnel teaches a telecommunication network, with emphasis on wireless mobile telecommunication system, for providing signaling techniques using ATM technology. According to the teaching, the encoded symbol data (column 6, lines 11-14) sent from logical channels (i.e., virtual channels) are stored in a dedicated memory of a mobile terminal (column 6, lines 7-10).

Therefore, it would have been obvious to one with ordinary skill in the art at the time of the invention was made to modify the teaching of Tsztoo to integrate the symbol memory buffer of the base station modem with a mobile communication system, in which the symbol data corresponding to at least one logical channel and coded in at least one encoding ratio is stored as taught by Kuehnel. One is motivated as such in order to provide cost and transmission efficiency of the wireless system infrastructure (column 3, lines 44-47).

Regarding claim 8, Tsztoo teaches a selection signal input to the multiplexer (i.e., enable signal sent from request arbiter 928 to mux 930) is produced by reading an enable state of a corresponding channel by means of a pulse signal (i.e. control signal, column 14, lines 8-12) of each channel, the enable state of the corresponding channel being stored in the start address table (i.e., channel address memory 922, FIG. 9).

3. Claims 4-5, 9-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tsztoo et al (U.S Patent No. 6,639,915 B1) in view of Kuehnel et al (U.S Patent No. 5,907,542) and further in view of Witkowski et al (U.S Patent No. 6,201,789 B1).

Regarding claims 4-5 and 9-10, Tsztoo and Kuehnel fail to teach when symbol data for one channel are divided and stored in at least two storage sectors of the buffer memory, link information between the storage sectors in which the symbol data for said one channel are stored is stored in the buffer memory and in the start address table.

Witkowski teaches a network switch having a plurality of ports for sending and receiving data packets. It is disclosed that a switch includes a memory having a data packet portion divided into sectors chained together using link addresses. According to the embodiment, the sectors are initially linked into a freepool chain of sectors. As data packets are received, a receive sector chain is created for each network port by pulling sectors from the freepool chain as needed (column 3, lines 54-64). Hence, the link addresses enable the data packets stored in different sectors to be transmitted and received in their entirety.

Therefore, it would have been obvious to one with ordinary skill in the art at the time of the invention was made to modify the teachings of Tsztoo and Kuehnel to create link information when symbol data for one channel are divided and stored in at least two storage sectors of the buffer memory and store such linking information in the buffer memory and in the start address table as taught by Witkowski. One would be motivated

to do so in order to include transmit address links to form transmit packet chain for each port receiving data packets for transmission (refer Witkowski; column 3, lines 44-47).

Response to Arguments

1. Applicant's arguments filed 8/29/2008 have been fully considered but they are not persuasive.

2. Regarding claims 1 and 6, applicant argues that the applied reference does not teach "a buffer memory for storing symbol data for the logical channel according to input sequences" and "storing symbol data in a buffer in a continuous arrangement."

In response to the above-mentioned argument, examiner respectively disagrees. Tsztoo teaches a voice packet (symbol data) buffer memory that stores the data according to an input instruction (input sequence), referred in the previous office action in Fig. 9; 926 in Tsztoo, input CHANNEL_ADD. Tsztoo teaches that CHANNEL_ADD, or CHAN.sub.13 ADD, as further explained in column 15 lines 11-19, notifies the VPBM system of where store voice data in accordance to a channel. The voice data is stored within the VPBM (buffer memory) according to different channels, and is advantageously packed into a common packet (continous arrangement) [refer column 9 lines 65-67, column 10 lines 1-4]. This is similarly address in column 10 lines 12-13 and 29-32 which state that the data can be written to be contiguous, including payload with header information.

3. Regarding claims 1 and 6, applicant argues that the applied reference does not teach "a start address table for storing address information according to the logical channels."

In response to the above-mentioned argument, examiner respectively disagrees. As noted in the previous office action, Tsztoo teaches that a channel address memory, refer Tsztoo Fig. 9; 922, stores address information regarding particular channels [column 15 lines 1-10], the addresses used to indicate where voice data (symbol data) is to be stored for a particular channel in the VPBM [column 15 lines 43-50]. Data can then be read from the VPBM according to a particular channel [column 15 lines 51-53] based on the addressing used by the channel address memory for storing the data in the VPBM [column 15 lines 11-19].

4. Regarding claims 1 and 6, applicant argues that the applied reference does not teach "symbol data."

In response to the above-mentioned argument, examiner respectively disagrees. Symbol data is best understood to one of ordinary skilled as a packet to comprise of or represent one or several bits of data, and broadly interpreted would be a general data packet, cell or frame. Tsztoo teaches that voice data received is in packet form [refer column 5 lines 56-62], which would meet the criteria of a symbol data.

Conclusion

5. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ryan C. Kavleski whose telephone number is 571-270-3619. The examiner can normally be reached on Mon-Fri 7:30am - 4:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hassan Kizou can be reached on 571-272-3088. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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